AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1(Canceled).

2(Currently Amended). ~~The~~ An isolated nucleotide sequence ~~according to claim 1~~ of~~, which is selected from the group consisting of:~~

~~(a)~~ SEQ ID NO: 1 or ~~an anti-sense~~ a sequence complementary to the nucleotide sequence of SEQ ID NO: 1~~ thereof,~~

~~(b) a sequence encoding at least amino acids 31 to 103 of SEQ ID NO: 2 or an anti-sense sequence thereof;~~

~~(c) a sequence encoding at least amino acids 303 to 346 of SEQ ID NO: 2 or an anti-sense sequence thereof;~~

~~(d) a sequence encoding at least amino acids 476 to 641 of SEQ ID NO: 2 or an anti-sense sequence thereof;~~

~~(e) a sequence encoding at least amino acids 31 to 103, amino acids 303 to 346 and 476 to 641 of SEQ ID NO: 2 or an anti-sense sequence thereof; and~~

~~(f) a sequence having a homology of at least 50% to the sequences (a) through (e) according to a selected algorithm and encoding a protein or peptide having ubiquitin-protein-ligase activity~~.

3(Currently Amended). The nucleotide sequence according to claim ~~1~~ 2, which is synthetically or recombinantly produced.

4(Canceled).

5(Currently Amended). The nucleotide sequence according to claim ~~1~~ 2, which is present as a wild-type gene in normal human epidermal keratinocytes and normal human osteoblasts,

6(Currently Amended). The nucleotide sequence according to claim ~~1~~ 2 that encodes a polypeptide that delays entry of a human cell into metaphase in response to mitotic stress.

7-20 (Canceled).

21(Currently Amended). A ~~diagnostic~~ reagent ~~comprising~~ useful for detecting expression of the wild-type *chfr* gene or a mutation in said gene in cells, said reagent consisting of a nucleic acid sequence of between 12 to 30 nucleic acids in length ~~that binds to the *chfr* nucleic acid sequence or a fragment thereof, said reagent sequence associated with a detectable label~~ that is identical or complementary to SEQ ID NO: 1.

22(Canceled).

23(Currently Amended). ~~A~~ The ~~diagnostic~~ reagent according to claim 21, further comprising ~~a ligand that binds to Chfr, said ligand associated with~~ a detectable label.

24-42 (Canceled).

43(New). The reagent according to claim 23, wherein said label is a fluorescent label or an enzyme.

44(New). The reagent according to claim 21, which is complementary to the portion of SEQ ID NO: 1 that encodes amino acids 31-103 of SEQ ID NO: 2.

45(New). The reagent according to claim 21, which is complementary to the portion of SEQ ID NO: 1 that encodes amino acids 303 to 346 of SEQ ID NO: 2.

46(New). The reagent according to claim 21, which is complementary to the portion of SEQ ID NO: 1 that encodes amino acids 476 to 641 of SEQ ID NO: 2.

47(New). The reagent according to claim 21, which is useful in a PCR assay to detect the sensitivity of tumor cells in said subject to an anti-mitotic drug, wherein detection of said expression of said *chfr* gene or said mutation in said *chfr* gene is indicative of said sensitivity.

48(New). The reagent according to claim 47, wherein said anti-mitotic agent is the Taxol® agent.

49(New). A kit for detecting expression of the wild-type *chfr* gene or a mutation of said *chfr* gene in cells, said kit comprising at least one component selected from the group consisting of (i) a fragment of the nucleotide sequence of SEQ ID NO: 1 that is between 12 to 30 nucleotides in length, that is complementary and binds to *chfr*; and (ii) a fragment of the nucleotide sequence of SEQ ID NO: 1 that is between 12 to 30 nucleic acids in length.

50(New). The kit according to claim 49, which analyzes said cells for one or more characteristics selected from the group consisting of (a) the substantial absence of a *chfr* gene; (b) a mutation in the *chfr* gene; and (c) combinations of (a) and (b).

51(New). The kit according to claim 49, wherein said nucleotide fragment (i) or (ii) is attached to a detectable label.

52(New). The kit according to claim 51, wherein said detectable label is a fluorescent compound or an enzyme.

53(New). The kit according to claim 52, further comprising one or more components that detect said labels.

54(New). The kit according to claim 49, further comprising a component selected from the group consisting of instructions for performing said kit, microtiter plates to which said nucleic acid sequences have been pre-adsorbed, diluents, buffers, applicator sticks, containers, and sample preparator cups.

55(New). The kit according to claim 49, wherein said nucleotide fragment (i) or (ii) is synthetically or recombinantly produced.

56(New). The kit according to claim 49, further comprising instructions for performing PCR on tumor cells of said mammal using said nucleic acid sequences (i) or (ii).

57(New). The kit according to claim 49, which is useful in a PCR assay to detect the sensitivity of said subject's tumor cells to an anti-mitotic drug, wherein detection of the expression of said *chfr* gene or a mutation of said *chfr* gene is indicative of said sensitivity.

58(New). The kit according to claim 57, wherein said anti-mitotic drug is the Taxol® agent.

59(New). An isolated nucleotide sequence which is selected from the group consisting of:

(a) a sequence encoding at least amino acids 31 to 103 of SEQ ID NO: 2 or an anti-sense sequence thereof;

(b) a sequence encoding at least amino acids 303 to 346 of SEQ ID NO: 2 or an anti-sense sequence thereof;

(c) a sequence encoding at least amino acids 476 to 641 of SEQ ID NO: 2 or an anti-sense sequence thereof; and

(d) a sequence encoding at least amino acids 31 to 103, amino acids 303 to 346 and 476 to 641 of SEQ ID NO: 2 or an anti-sense sequence thereof.